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TECHNICAL NOTE

U.S. DEPARTMENT OF THE INTERIOR – BUREAU OF LAND MANAGEMENT

PHOTOGRAMMETRIC PROFILES FOR SKYLINE LOGGING

Modern skyline systems may offer substantial advantages over conventional logging methods by reducing excessive road construction costs, providing better watershed protection and minimizing soil losses and diversion of productive forest land to roads.

Deflection of the skyline is critical. Unless advance engineering is accurate, the loaded deflection of the skyline may render portions of the skyline road inoperable.

Planning the skyline system usually requires plotting of ground profiles under a number of potential cable locations. The profiles may be obtained by field surveys, but they are costly if more than a few are required, or interpolated from a good topographic map, if one is available. In this connection it should be noted that national map accuracy standards require that 90% of the contours be true within one half the contour interval. USGS quad maps often do not carry the accuracy statement in heavily timbered areas, and cannot be relied upon for skyline profiles.

The PSC can undertake a limited amount of large scale contoured mapping such as that accomplished for the McKenzie River project, Eugene District. Mapping of this type should be considered as an all purpose management tool, as the cost exceeds that of determining profiles alone.

As an alternative to these methods, the photogrammetric method was proposed as a practical and convenient answer by way of the employee suggestion system. It was recommended for partial adoption by the PSC and WO staffs, and outlined herewith.

The photogrammetric method is the most economical way of securing a large volume of profile data. Until the necessary equipment becomes available to the BLM, the services can be obtained from any of several mapping contractors who have equipment to produce digital profiles from aerial photograph and standard stereo plotters. The punched cards or tape can be used in ADP programs to produce numerical printout, graphic profiles, or similar applications.

Because there are numerous variable factors surrounding each project, there is no "cook book" formula that will be best for all cases. Each project should be negotiated as for any professional service, in which the contractor is expected to achieve the objectives of the accuracy and numbers of profiles required. The PSC Branch of Mapping is available for assistance on proposed projects.

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